



State of California
The Resources Agency

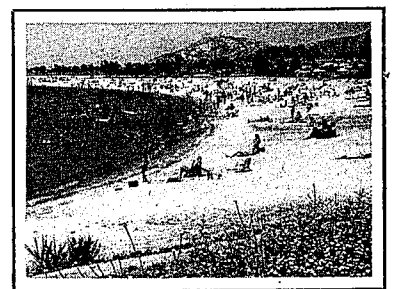
Department of
Water Resources

Management of the California State Water Project

Appendix D

Costs of Recreation and Fish and Wildlife Enhancement

Bulletin 132-83
December 1983



ON THE COVER: Moreno Palm Beach at
Lake Perris

**Department of
Water Resources**

Bulletin 132-83

Management of The California State Water Project

Appendix D Costs of Recreation and Fish and Wildlife Enhancement

December 1983

Gordon K. Van Vleck
Secretary for Resources

George Deukmejian
Governor

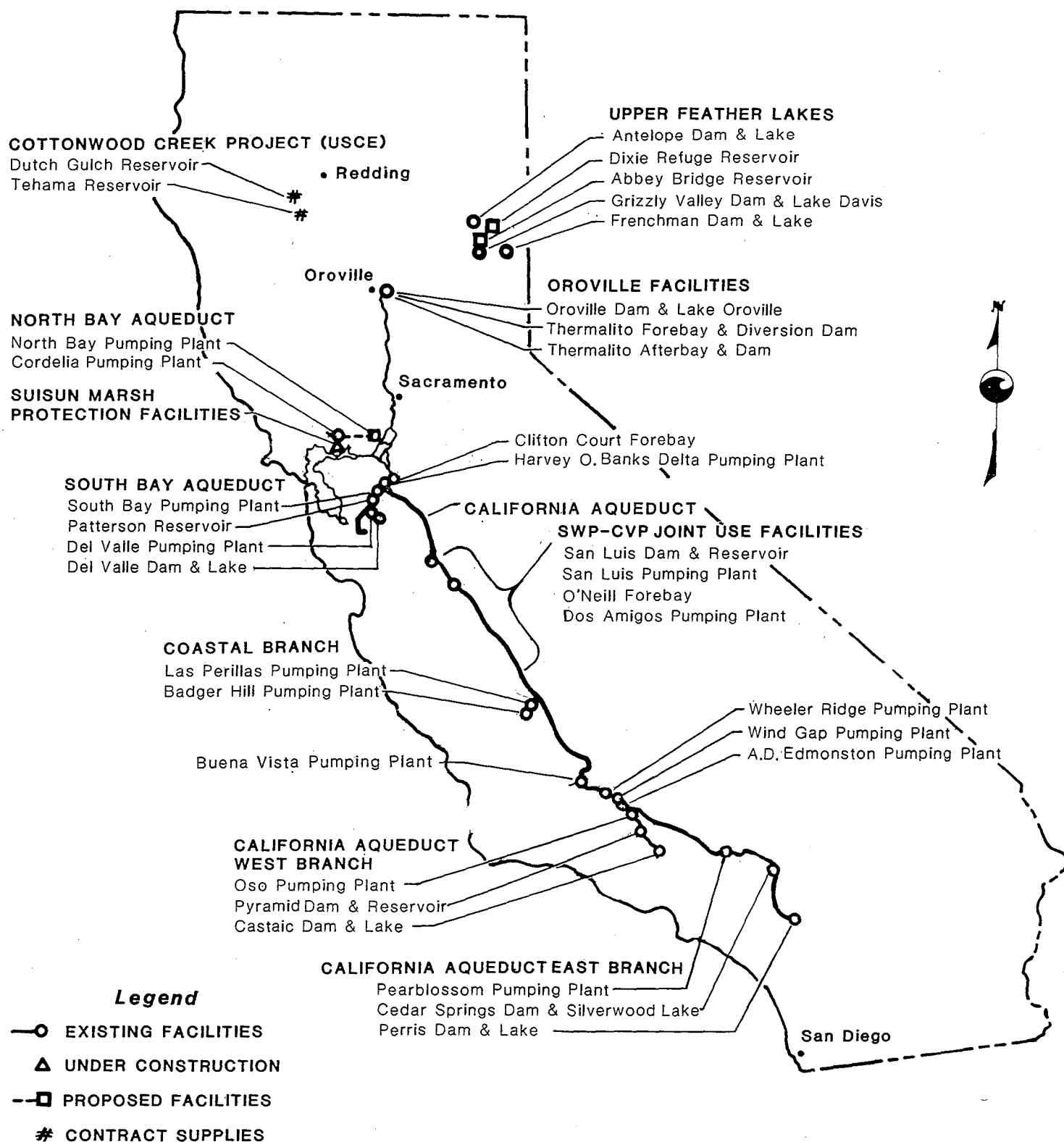
David N. Kennedy
Director

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Agency**

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**Department of
Water Resources**

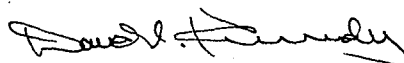
CALIFORNIA STATE WATER PROJECT WATER FACILITIES



FOREWORD

The Davis-Dolwig Act (Sections 11900-11925 of the California Water Code) declares that providing for the enhancement of fish and wildlife and for recreation in connection with State water projects benefits all of the people of California and that the costs attributable to such enhancement should be borne by them. The Act also provides a procedure through which the Department of Water Resources will be reimbursed for those project costs which are allocated to recreation and fish and wildlife enhancement and for costs of acquiring property for recreation development. The Department is to annually report such expenditures to the Legislature. If the Legislature approves the reported costs, a like amount of the State's tideland oil and gas revenues will be released to the Department from a continuing \$5,000,000 annual appropriation of tideland revenues which has been authorized specifically for that purpose (Public Resources Code Section 6217).

This constitutes the Department's 1983 report to the Legislature in compliance with the above requirement. An additional \$18,267,895 for recreation and fish and wildlife enhancement is reported herein. This amount consists of \$9,185,215 for joint capital costs of the State Water Project which is allocated to recreation and fish and wildlife enhancement, plus \$9,082,680 for specific recreation land costs. The additional amount is mostly due to costs incurred in 1982 and interest accrued during 1982 on recreation costs not yet reimbursed by the continuing annual appropriation.



David N. Kennedy, Director
Department of Water Resources
The Resources Agency
State of California

State of California
GEORGE DEUKMEJIAN, Governor

The Resources Agency
GORDON K. VAN VLECK, Secretary for Resources

Department of Water Resources
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STATE WATER PROJECT ANALYSIS OFFICE

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CALIFORNIA WATER COMMISSION

ROY E. DODSON, Chairperson, San Diego
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Executive Officer and Chief Engineer

Tom Y. Fujimoto
Assistant Executive Officer

The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine member citizen Commission provides a water resources forum for the people of the State, acts as a liaison between the legislative and executive branches of State Government and coordinates Federal, State and local water resources efforts.

REPORTING OF RECREATION
AND
FISH AND WILDLIFE ENHANCEMENT COSTS

Section 11912 of the California Water Code assigns to the Department of Water Resources (Department) the following responsibilities:

It shall be the duty of the Department to report annually to the Legislature the costs, if any, which the Department has allocated to recreation and fish and wildlife enhancement for each facility of any state water project. The Department shall also report to the Legislature any revisions which the Department makes in such allocations.

The Department shall submit each such cost allocation to the Department of Navigation and Ocean Development (Department of Boating and Waterways), to the Department of Parks and Recreation, and to the Department of Fish and Game. The Department of Navigation and Ocean Development, the Department of Parks and Recreation, and the Department of Fish and Game shall file with the Department of Water Resources their written comments with respect to each such cost allocation, which written comments shall be included in the report required by this section.

It shall also be the duty of the Department to report to the Legislature on any expenditure of funds for acquiring rights-of-way, easements and property pursuant to Section 346 for recreation development associated with such facilities...

This appendix is the Department's 1983 report, as required by Section 11912 of the California Water Code.

For brevity, "fish and wildlife enhancement" is hereafter referred to as "enhancement". The Department's cost allocations treat recreation and enhancement as one combined purpose of the State Water Project.

Organization of Report

The costs of State Water Project facilities the Department has allocated to recreation and enhancement through December 31, 1982 are shown in Table 1, pages 8 and 9. Table 1 also shows the expenditures for acquiring rights of way, easements, and property for recreation development associated with such facilities. Table 2, on pages 14 and 15, details the accrued interest charges included in the costs shown in Table 1.

The notes to Table 1, pages 10 through 13, explain the Department's procedures for reporting recreation and enhancement costs, describe how the amounts shown in the table are calculated, and reconcile significant changes from costs shown in previous reports.

The costs shown in Table 1 do not reflect new or revised allocations for any facility of the State Water Project. The derivation of allocation percentages indicated for joint capital costs of those multipurpose facilities listed in the upper portion of Table 1 have been described in previous reports. Copies of those descriptions are available on request to the Department.

A summary of allocation percentages is shown on page 16, along with illustrative allocation percentages for facilities not yet reported.

Included at the end of this report are comments by the Department of Boating and Waterways, the Department of Parks and Recreation, and the Department of Fish and Game.

TABLE 1: RECREATION AND ENHANCEMENT

(Reported to the California Legislature in

Cin

TYPE OF COSTS, PROJECT FACILITY, AND SOURCE OF FUNDS	DISBURSEMENTS							
	1952- 1969	1970	1971	1972	1973	1974	1975	1976
JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND ENHANCEMENT ^(b)								
<u>Frenchman Dam and Lake (78.5%)</u>								
California Water Resources Development Bond Fund	93,272	1,291	7,199	1,235		1,195	365	916
All other funds	2,430,547	260	226	1,600	972	1,195	365	916
Subtotal	2,523,819	1,551	7,425	2,835	972	1,195	365	916
<u>Antelope Dam and Lake (100%)</u>								
California Water Resources Development Bond Fund	991,354	19,119	24,350	1,605				
All other funds	3,930,578	5,003	3,028	2,096	1,414	1,806	513	1,731
Subtotal	4,921,932	24,122	27,378	3,701	1,414	1,806	513	1,731
<u>Grizzly Valley Dam and Lake Davis (99.0%)</u>								
California Water Resources Development Bond Fund	3,985,381	5,953	10,025	1,734				
All other funds	459,029	64,898	769	2,729	25,191	47,579	88,268	22,113
Subtotal	4,444,410	70,851	10,794	4,463	25,191	47,579	88,268	22,113
<u>San Luis Dam and Reservoir, O'Neill Forebay and Los Banos Reservoir (3.4%)</u>								
California Water Resources Development Bond Fund	2,003,065	6,390	4,940	18,604	-268	-381	-253	-130
All other funds	1,323,301	307	1,420	5,357	9,347	12,561	11,665	4,870
Subtotal	3,326,366	6,697	6,360	24,161	9,079	12,180	11,412	4,740
<u>California Aqueduct, Delta to Dos Amigos P.P. (3.4%)</u>								
California Water Resources Development Bond Fund	4,366,999	80,281	16,390	4,027	-30			
All other funds	663,698	47,339	3,146	6,745	7,861	12,243	21,602	38,409
Subtotal	5,030,697	127,620	19,536	10,772	7,831	12,243	21,602	38,409
<u>Oroville Division (2.9%)</u>								
California Water Resources Development Bond Fund	5,705,530	7,453	7,843	4,661	-37	-42	-18	-15
All other funds	3,272,057	17,840	5,329	10,773	23,796	26,144	28,467	28,087
Subtotal	8,977,587	25,293	13,172	15,434	23,759	26,102	28,449	28,072
<u>Del Valle Dam and Lake Del Valle (48.0%)</u>								
California Water Resources Development Bond Fund	10,463,156	19,510	23,248	40,248				
All other funds	2,095,955	45,203	3,300	6,681	9,614	115,645	7,835	9,976
Subtotal	12,559,111	64,713	26,548	46,929	9,614	115,645	7,835	9,976
<u>California Aqueduct, Dos Amigos P.P. to Termini (5.7%)</u>								
California Water Resources Development Bond Fund	28,899,346	9,013,914	7,815,230	2,934,889	-2,130	-38,892	131	59
All other funds	13,073,085	3,365,488	1,848,310	1,313,733	2,719,096	1,466,020	1,238,091	974,102
Subtotal	41,972,431	12,379,402	9,663,540	4,248,622	2,716,966	1,427,128	1,238,222	974,161
TOTAL	83,786,363	12,700,249	9,774,753	4,356,917	2,794,826	1,643,878	1,396,666	1,080,118
SPECIFIC COSTS OF ACQUIRING LAND FOR RECREATION DEVELOPMENT ^(c)								
<u>Frenchman Dam and Lake</u>								
California Water Resources Development Bond Fund	3,089	182	108					
All other funds	49,940		7					
Subtotal	53,029	182	115					
<u>Grizzly Valley Dam and Lake Davis</u>								
California Water Resources Development Bond Fund	203,148	625	343					
All other funds	5,246							
Subtotal	208,394	625	343					
<u>Abbey Bridge Dam and Reservoir</u>								
California Water Resources Development Bond Fund	9							
All other funds	9,921							
Subtotal	9,930							
<u>San Luis Dam and Reservoir, O'Neill Forebay, and Los Banos Reservoir</u>								
California Water Resources Development Bond Fund	229,507	47,114	1,964	116,692				
All other funds	230,898	-272	470	-42,536	19,103	118	508	692
Subtotal	460,405	46,842	2,434	74,156	19,103	118	508	692
<u>California Aqueduct, Delta to Dos Amigos P.P.</u>								
California Water Resources Development Bond Fund	464,815	5,115	-9,735	891				
All other funds	105,347	1,343	1,117	180	83	113	349	888
Subtotal	570,162	6,458	-8,618	1,071	83	113	349	888
<u>Oroville Division</u>								
California Water Resources Development Bond Fund	7,796,673	4,160	10,135	-753	-74	-87	-53	-45
All other funds	324,091	4,927	4,437	3,347	487	1,016	-3,762	1,880
Subtotal	8,120,764	9,087	14,572	2,594	413	929	-3,815	1,835
<u>Del Valle Dam and Lake Del Valle</u>								
California Water Resources Development Bond Fund	517,157	1,629	600	39				
All other funds	-41,994	190	159	758	2,017	820	403	44
Subtotal	475,163	1,819	759	797	2,017	820	403	44
<u>California Aqueduct, Dos Amigos P.P. to Termini</u>								
California Water Resources Development Bond Fund	462,166	35,374	-8,356	-9,633	-580			
All other funds	25,731	1,638	2,960	10,337	2,876	1,666	11,095	123
Subtotal	487,897	37,012	-5,396	704	2,296	1,666	11,095	123
<u>Castaic Dam and Lake</u>								
California Water Resources Development Bond Fund	1,787,196	167,743	20,228	-17,551	-2,978	-232	-109	
All other funds	65,093	1,028	7,810	68,430	26,270	6,550	89,836	10,841
Subtotal	1,852,289	168,771	28,038	50,879	25,292	6,318	89,727	10,841
<u>Cedar Springs Dam and Silverwood Lake</u>								
California Water Resources Development Bond Fund	333,852	53,310	19,958	18,171	-325			
All other funds	152,833	27,054	-12,302	29,654	13,511	28,987	11,865	5,739
Subtotal	486,685	80,364	7,656	47,825	13,186	28,987	11,865	5,739
<u>Perris Dam and Lake Perris</u>								
California Water Resources Development Bond Fund	837,111	277,427	7,776	-94,825	-5,176			
All other funds	3,622,237			84,874	20,464	8,922	32,890	15
Subtotal	4,459,348	277,427	7,776	-9,951	15,288	8,922	32,890	15
TOTAL	17,184,026	628,587	47,679	168,075	77,678	47,873	143,022	20,177
TOTAL RECREATION AND ENHANCEMENT COSTS								
California Water Resources Development Bond Fund	69,142,826	9,746,590	7,952,246	3,020,034	-11,598	-39,634	-302	-131
All other funds	31,827,563	3,582,246	1,870,186	1,504,958	2,884,102	1,731,385	1,539,990	1,100,426
GRAND TOTAL	100,970,389	13,328,836	9,822,432	4,524,992	2,872,504	1,691,751	1,539,688	1,100,295

Footnotes a-f are presented on page 10 through 13.

COST OF THE STATE WATER PROJECT ^(a)

Response to Water Code Section 11912)

dollars)

BY CALENDAR YEAR						Total Disbursement Thru 1982	Add: Interest Accruals Thru 1982	Total Costs Reported Thru 1982	Comparison with Costs Previously Reported	
1977	1978	1979	1980	1981	1982				Thru 1981	Increase
						102,997	1,803	104,800	104,800	
700	10,531	9,278	56,964	13,705	69,433	2,596,692	2,596,692	2,527,497	2,527,497	69,195
700	10,531	9,278	56,964	13,705	69,433	2,699,689	1,803	2,701,492	2,632,297	69,195
						1,036,428	98,396	1,134,824	1,134,824	
1,348	18,514	16,099	61,303	4,516	93,234	4,141,183	98,396	4,240,152	4,048,152	93,031
1,348	18,514	16,099	61,303	4,516	93,234	5,177,611	98,396	5,276,007	5,182,976	93,031
						4,003,093	417,923	4,421,016	4,420,156	860
8,196	78,430	45,881	92,355	10,324	44,874	990,636		990,636	945,079	44,557
8,196	78,430	45,881	92,355	10,324	44,874	4,993,729	417,923	5,411,652	5,366,235	45,417
						1,990,967	284,828	2,275,795	2,317,356	-41,561
5,660	-22,713	-2,289	19,269	8,376	281,649	1,688,980		1,688,980	1,407,352	281,628
5,642	-22,769	-2,289	17,191	5,888	245,389	3,679,947	284,828	3,964,775	3,724,708	240,067
						4,467,667	749,742	5,217,409	5,217,325	84
15,453	19,999	32,771	28,506	194,695	145,375	1,237,842		1,237,842	1,071,243	166,599
15,433	19,999	32,771	28,506	194,695	145,375	5,705,509	749,742	6,455,251	6,288,568	166,683
						5,725,233	1,725,255	7,450,488	7,624,100	-173,612
515,025	83,103	52,177	28,974	58,689	67,030	4,217,530		4,217,530	4,127,696	89,834
515,010	83,084	52,154	28,947	58,660	67,030	9,942,763	1,725,255	11,668,018	11,751,796	-83,778
						10,546,162	5,503,135	16,049,297	14,845,196	1,204,101
3,656	9,324	33,333	35,871	23,933	23,527	2,423,853		2,423,853	2,399,728	24,125
3,636	9,324	33,333	35,871	23,933	23,527	12,970,015	5,503,135	18,473,150	17,244,924	1,228,226
						48,689,434	40,153,465	88,842,899	84,569,694	4,273,205
57	-1,440	-155	3,473	4,174	60,778	36,663,903		36,663,903	33,510,734	3,153,169
824,657	864,609	1,602,475	2,291,557	1,979,439	3,103,241	85,353,337	40,153,465	125,506,802	118,080,428	7,426,374
824,714	863,169	1,602,320	2,295,030	1,983,613	3,164,019					
1,374,619	1,060,282	1,789,547	2,616,167	2,295,334	3,852,881	130,522,600	48,934,547	179,457,147	170,271,932	9,185,215
						3,379	134	3,513	3,513	
						49,947		49,947	49,945	2
						53,326	134	53,460	53,458	
						204,116	15,099	219,215	219,215	
		2,648	56,918	77,078	50,675	192,565		192,565	129,440	63,125
		2,648	56,918	77,078	50,675	396,681	15,099	411,780	348,655	63,125
						9		9	9	
						9,921		9,921	9,921	
						9,930		9,930	9,930	
						395,277	28,823	424,100	424,103	-3
729	1,075	56,049	125	107	223	267,289		267,289	266,984	305
729	1,075	56,049	125	107	223	662,566	28,823	691,389	691,087	302
						461,086	134,710	595,796	595,796	
617	978	21,952	43,343	11,303	36,210	223,823		223,823	184,413	39,410
617	978	21,952	43,343	11,303	36,210	684,909	134,710	819,619	780,209	39,410
						7,809,572	3,015,073	10,824,645	2,578,264	8,246,381
1,637	101,283	1,313	1,853	1,039	6,733	450,241		450,241	436,259	13,982
1,592	101,225	1,244	1,772	991	6,689	8,259,813	3,015,073	11,274,886	3,014,323	8,260,563
						519,425	371,947	891,372	818,165	73,207
88	707	262	389	313	249	-35,595		-35,595	-35,899	244
88	707	262	389	313	249	483,830	371,947	855,777	782,366	73,411
						478,971	327,881	806,852	720,316	86,536
561	33,357	274,051	125,515	3,837	11,252	504,999		504,999	492,629	12,370
561	33,357	274,051	125,515	3,837	11,252	983,970	327,881	1,311,851	1,212,945	98,906
						1,954,297	1,438,076	3,392,373	3,090,653	301,720
18,589	49,662	113,056	469,436	9,178	2,568	940,347		940,347	930,965	9,382
18,589	49,662	113,056	469,436	9,178	2,568	2,894,644	1,438,076	4,332,720	4,021,578	311,102
						424,966	324,389	749,355	687,805	61,550
2,528	8,402	15,953	56,904	3,149	6,267	350,544		350,544	342,968	7,576
2,528	8,402	15,953	56,904	3,149	6,267	775,510	324,389	1,099,899	1,030,773	69,126
						1,022,313	832,021	1,854,334	1,687,441	166,893
	84,460	206,806	879,590			4,940,258		4,940,258	4,940,258	
	84,460	206,806	879,590			5,962,571	832,021	6,794,592	6,627,699	166,893
24,704	279,867	692,021	1,633,992	105,916	114,133	21,167,750	6,488,153	27,655,903	18,573,223	9,082,680
						89,835,392	55,422,700	145,258,092	131,058,731	14,199,361
1,399,444	1,341,721	2,481,815	4,248,872	2,399,681	3,942,569	61,854,958		61,854,958	57,786,424	4,068,534
1,399,323	1,340,149	2,481,568	4,250,159	2,401,250	3,967,014	151,690,350	55,422,700 ^d	207,113,050	188,845,155 ^e	18,267,895 ^f

Notes to Table 1, Pages 8 and 9

a) Recreation and enhancement costs refer only to (1) multipurpose-facility capital costs allocated to recreation, and (2) the capital costs of lands acquired for associated recreation development. These costs are budgeted by the Department of Water Resources from funds that are available for

financing Project construction costs.

The remaining recreation and enhancement costs not reported in Table 1 are budgeted by several State departments. These costs, financed by appropriations from a variety of funds, are summarized as follows:

Type of Recreation and Enhancement Costs Not Reported in Table 1	General Fund Appropriations, unless otherwise noted		
	1983-84 (a)	1982-83 (b)	Total 1962-63 thru 1983-84 (c)
Allocated operation, maintenance, power and replacement costs of multipurpose facilities	\$ 0 (d)	\$ 0 (d)	\$16,735,000
Capital costs of recreation developments other than for land acquisition	\$ 376,000 (e)	\$4,915,000 (e)	\$96,542,000 (e)(f)
Operation, maintenance, and replacement costs of recreation developments	\$6,825,000	\$6,418,000	\$51,954,000
<p>a) Proposed amounts in Governor's budget. b) 1982-83 budgeted amount. c) Actual thru 1981-82 plus a) and b). d) The cost allocation for the California Aqueduct reported in Appendix D to Bulletin 132-80 resulted in general funds being overcollected in past years. The budgeted amounts for 1981-82, 1982-83 and 1983-84 reflect a credit equal to the amounts which the Department otherwise would have budgeted from the general fund. Additional credits will be made in future years until the full amount of the overcollection has been refunded. e) Amounts from State recreation bond funds and other State and Federal recreation funds. f) Includes \$1,236,000 from the Harbors and Watercraft Revolving Fund, and \$200,000 directly from the Highway Users Tax Fund.</p>			

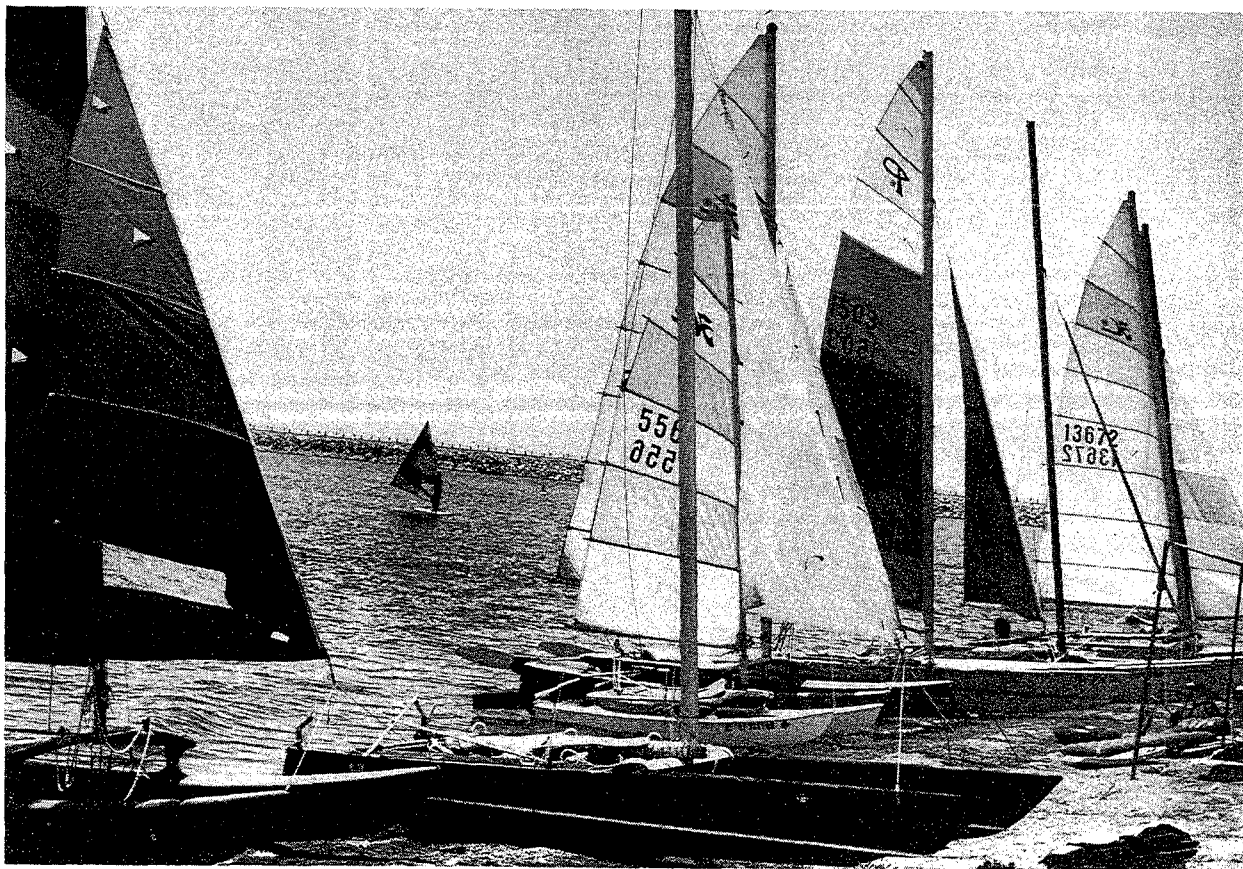
Allocated operation, maintenance, power, and replacement costs of multipurpose facilities are budgeted by the Department and financed by annual appropriations from the State General Fund. Capital costs (other than land acquisition costs), along with operation, maintenance, and replacement costs of recreation developments, are budgeted by the Department of Parks and Recreation. However, the costs of constructing boating facilities are budgeted by the Department of Boating and Waterways, and the costs of enhancement developments are budgeted by the Department of Fish and Game.

b) Joint capital costs allocated to recreation and enhancement are based on the Department's derivation, for each multipurpose facility, of the percentages of the total joint costs attributable to each included purpose. These derivations are based on the application of conventional cost allocation methods that weigh the estimated costs to be incurred and the benefits to be realized during a 50-year period of analysis. Allocated costs reflect the application of these percentages to the actual capital costs incurred for each facility, as accounted by the Department.

Costs allocated to recreation and enhancement generally are first reported in the year following the year construction of a facility is completed. However, these allocated costs may be subsequently changed by either the adjustment of accounted capital costs or the revision of allocation percentages.

In response to continuing questions raised by the Department of Finance, the Department of Water Resources will

be reviewing the factors supporting the allocations of Project costs for the Oroville Division and the California Aqueduct, Dos Amigos to termini. This study will include reevaluation of Project benefit levels and other factors within the definition of the Separable Costs - Remaining Benefits allocation method. Before the Department changes the allocations, the Department will seek to reach a consensus on appropriate factors to be used in future reports.



Boating at Lake Perris

c) Specific costs of acquiring land for recreation development are incurred by the Department under the authority of California Water Code Section 346. The Department purchases recreation land concurrently with other lands needed for multipurpose facilities, in

order to (1) decrease the total land costs of the Project and (2) acquire property in an orderly manner. Recreation lands acquired for each Project facility through September 30, 1982 are shown in the following table:

SUMMARY OF RECREATION LAND ACQUISITIONS ^(a)

(in acres)

Project Facility	Acquired (b)	To Be Acquired	Federal Lands (c)	Total
Frenchman Lake	719	0	0	719
Antelope Lake	1,342	0	0	1,342
Lake Davis	733	0	0	733
San Luis Reservoir and O'Neill Forebay	2,518	0	0	2,518
Oroville Division	2,993	0	212	3,205
Lake Del Valle	1,206	0	0	1,206
California Aqueduct (excluding reservoirs)	1,834(d)	(e)	0	1,834
Castaic Lake	1,915	0	577	2,492
Silverwood Lake	3,223	0	0	3,223
Lake Perris	4,351	115	0	4,466
Total	20,834	115	789	21,738

a) Includes recreation lands for only those project facilities with an established recreation land use and acquisition plan.
b) Costs of acquiring these lands are shown in Table 1.
c) These Lands are presently being leased from the Federal Government at a nominal cost to the State.
d) Possession and control of a portion of these lands will be transferred to the Department of Fish and Game for use in the Department's Southern California wildlife mitigation program. When the transfer is made the acreage will be reduced accordingly.
e) Additional land needs are to be identified by future studies.

The Department reports the annual expenditure of Project funds for acquiring all recreation land in the year following the expenditure. The costs of such lands generally are established when acquired, and they are not affected by allocation percentages for the associated multipurpose Project facility. However, the reported costs of certain lands may be subsequently revised due to (1) receipt of certain revenues (such as federal grants and miscellaneous income from rights of way sales), or (2) modification of the recreation land use plan.

The amounts to be reported in future years will include credits for any reduction in previously reported costs, together with interest income thereon. If recreation land is sold or if grants are received, the amount of the receipt

will be reported as a negative cost of the facility in the year received. If recreation land is reclassified as multipurpose Project land, the original purchase price, together with appropriate interest income, will be reported as a negative expenditure for specific land costs, and an appropriate amount will be added to joint capital costs allocated to recreation and enhancement for the associated facility.

The costs of acquiring land for recreation development reported herein include about \$1.1 million for land that will be used to mitigate impacts to wildlife habitat in Southern California resulting from construction of the State Water Project. As these lands are redesignated from recreation to Project (wildlife mitigation) purposes, the amounts to be reported in future

years will include credits for the reduction in previously reported costs, together with appropriate interest income thereon.

The costs of acquiring recreation land also include the salaries of Department personnel engaged in recreation land acquisition activities, together with indirect costs distributed on the basis of direct salaries.

d) Interest accruals are calculated as shown in Table 2. Interest charges are accrued only on the portion of annual disbursements financed by the California Water Resources Development Bond Fund (proceeds from the sale of Burns-Porter bonds) and cease when such disbursements, together with cumulative interest accruals thereon, have been reimbursed. Calculations are based on the weighted average interest costs of Burns-Porter bonds sold to date (4.378 percent for the \$1.57 billion in bonds outstanding on December 31, 1982). This rate differs from the "Project Interest Rate" under Project water supply contracts, in that interest costs on revenue bond sales are not included.

As of December 31, 1982, a total of \$80 million had been reimbursed to the Department under the continuing annual \$5 million appropriation (through fiscal year 1981-82) of State tideland oil and gas revenues, authorized by California Statutes of 1966, First Extraordinary Session, Chapter 27. With no allowance for future interest, reimbursement of the increased costs reported herein would cover the annual appropriations in the full amounts for each fiscal year through fiscal year 2008-09 together with \$2,113,050 of the appropriation for 2009-10. With future interest computed at 4.378 percent, reimbursement of the costs reported herein would cover the appropriations in the full amounts for each fiscal year through 2024-25 together with \$598,205 of the appropriation for 2025-26.

e) Costs previously reported are as shown in Table 1 (pages 8 and 9) of Appendix D to Bulletin 132-82. Such costs were based on the Department's accounting records as of December 31, 1981. The average interest cost on Burns-Porter bond sales was then 4.378 percent.

f) Reasons for cost increases are outlined below:

- o Additional disbursements during 1982 for recreation lands and for joint capital costs allocated to recreation and enhancement ... \$3,967,000
- o Additional accrued interest on recreation costs not yet reimbursed by the continuing \$5 million annual appropriation due to changes in bond fund expenditures and an additional year of accrual (1982) ... \$8,376,000
- o Adjustment in Oroville Division costs for 1966 reflecting redesignation of 298 acres from project to recreation..... \$5,826,000
- o Adjustment in allocated costs of the California Aqueduct, Delta to Dos Amigos Pumping Plant for costs of lining repair in Reach 2A ... \$21,000
- o Adjustment in allocated costs of the California Aqueduct, Dos Amigos Pumping Plant to Termini, for acquisition of sediment removal equipment \$58,000
- o Adjustment in previously reported recreation land costs for Grizzly Valley Dam and Lake Davis for negotiating and administrative costs \$12,000
- o Retroactive accounting adjustment for acquisition of land for Castaic Ridge Recreation area ... \$7,000
- o Other retroactive accounting adjustments on costs reported prior to 1982 \$1,000

TOTAL INCREASE\$18,268,000

TABLE 2: CALCULATION OF INTEREST ACCRUALS ON CALIFORNIA

(in dollars)

JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND ENHANCEMENT										
Year	Item	Frenchman Dam and Lake	Antelope Dam and Lake	Grizzly Valley Dam and Lake Davis	San Luis Dam and Reservoir, O'Neill Forebay and Los Banos Reservoir	Calif. Aqueduct, Delta to Dos Amigos P.P.	Oroville Division	Del Valle Dam and Lake Del Valle	California Aqueduct Dos Amigos P.P. to Termini	Total
1952- 1978	a. Disbursements									
	1. Calif. Water Resources Development Bond Fund	102,997	1,036,428	4,003,093	2,031,793	4,467,667	5,725,341	10,546,162	48,621,164	76,534,645
	2. All other funds	2,447,312	3,966,031	797,202	1,381,975	836,495	4,010,631	2,307,189	27,687,191	43,434,026
	b. Reimbursement 1967 through 1978 applied to:									
	1. Calif. Water Resources Development Bond Fund	104,800	1,134,824	4,421,016	2,317,415	5,217,409	7,450,597	15,989,368		36,635,425
	2. All other funds	2,447,312	3,966,031	797,202	1,381,975	836,495	4,010,631	2,031,147		15,470,792
	c. Interest accrued to end of 1978	1,803	98,396	417,923	285,622	749,742	1,725,255	5,501,823	26,168,797	34,949,365
1979	d. Beginning of year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund							58,617	74,789,961	74,848,578
	2. All other funds							276,042	27,687,191	27,963,233
	e. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund						-23		-155	-178
	2. All other funds	9,278	16,099	45,881	-2,289	32,771	52,177	33,333	1,602,475	1,789,725
	f. Reimbursements during year applied to:									
	1. Calif. Water Resources Development Bond Fund						-23	58,617		58,594
	g. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	9,278	16,099	45,881	-2,289	32,771	52,177	309,375		463,292
	2. All other funds									
	h. Interest accrual on average balance of d(1) and g(1)							1,283	3,274,301	3,275,584
1980	i. Beginning-of-year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund								78,064,107	78,064,107
	2. All other funds								29,289,666	29,289,666
	j. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund				-2,078		-27		3,473	1,368
	2. All other funds	56,964	61,303	92,355	19,269	28,506	28,974	35,871	2,291,557	2,614,799
	k. Reimbursements during years applied to:									
	1. Calif. Water Resources Development Bond Fund				-2,078		-27	1,283		-822
	l. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	56,964	61,303	92,355	19,269	28,506	28,974	35,871		323,242
	2. All other funds									
	m. Interest accrual on average balance of i(1) and l(1)							28	3,417,723	3,417,751
1981	n. Beginning-of-year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund							28	81,485,303	81,485,331
	2. All other funds								31,581,223	31,581,223
	o. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund				-2,488		-29		4,174	1,657
	2. All other funds	13,705	4,516	10,324	8,276	194,695	58,689	23,933	1,979,439	2,293,677
	p. Reimbursements during year applied to:									
	1. Calif. Water Resources Development Bond Fund				-2,488		-29	28		-2,489
	q. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	13,705	4,516	10,324	8,376	194,695	58,689	23,933		314,238
	2. All other funds									
	r. Interest accrual on average balance of n(1) and q(1)							1	3,567,518	3,567,519
1982	s. Beginning-of-year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund							1	85,056,995	85,056,996
	2. All other funds								33,560,662	33,560,662
	t. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund				-36,260		-29		60,778	24,489
	2. All other funds	69,433	93,234	44,874	281,649	145,375	67,059	23,527	3,103,241	3,828,392
	u. Reimbursements during year applied to:									
	1. Calif. Water Resources Development Bond Fund				-36,260		-29	1	85,117,773	85,081,485
	v. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	69,433	93,234	44,874	281,649	145,375	67,059	23,527	36,663,903	37,389,054
	2. All other funds				-794		-1		3,725,126	3,724,331
Summary: 1952- 1982	x. Beginning of 1983 balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund	69,433	93,234	44,874	-37,054		-30	1	88,842,899	88,805,816
	2. All other funds	69,433	93,234	44,874	281,649	145,375	67,059	23,527	36,663,903	37,389,054
	y. Disbursements, 1952 through 1982:									
	1. Calif. Water Resources Development Bond Fund	102,997	1,036,428	4,003,093	1,990,967	4,467,667	5,725,233	10,546,162	48,689,434	76,561,981
	2. All other funds	2,596,692	4,141,183	990,636	1,688,980	1,237,842	4,217,530	2,423,853	36,663,903	53,960,619
	z. Reimbursements applied through 1982 to:									
	1. Calif. Water Resources Development Bond Fund	104,800	1,134,824	4,421,016	2,312,849	5,217,409	7,450,518	16,049,296		36,690,712
	2. All other funds	2,527,259	4,047,949	945,762	1,407,331	1,092,467	4,150,471	2,400,326		16,571,565
TOTAL INTEREST ACCRUALS, 1952 THROUGH 1982		1,803	98,396	417,923	284,828	749,742	1,725,255	5,503,135	40,153,465	48,934,547

WATER RESOURCES DEVELOPMENT BOND FUND DISBURSEMENTS

@ 4.378% per annum)

COSTS OF ACQUIRING LAND FOR RECREATION DEVELOPMENT												
Frenchman Dam and Lake	Grizzly Valley Dam and Lake Davis	Abbey Bridge Dam and Reservoir	San Luis Dam and Reservoir, O'Neill Forebay and Los Banos Reservoir	California Aqueduct Delta to Dos Amigos P.P.	Oroville Division	Del Valle Dam and Lake Del Valle	California Aqueduct, Dos Amigos to Termini	Castaic Dam and Lake	Cedar Springs Dam and Silverwood Lake	Perris Dam and Lake Perris	Total	GRAND TOTAL
3,379 49,947	204,116 5,246	9 9,921	395,277 210,785	461,086 111,015	7,809,854 439,303	519,425 -36,808	478,971 90,344	1,954,297 346,109	424,966 268,271	1,022,313 3,853,862	13,273,693 5,347,995	89,808,338 48,782,021
3,513 49,947 134	219,215 5,246 15,099	9 9,921	424,100 210,785 28,823	595,796 111,015 134,710	10,824,928 439,303 3,015,074	352,435	310,220	1,325,605	277,237	700,449	6,159,786	48,702,990 16,297,010 41,109,148
						871,850 -36,808	789,191 90,344	3,279,902 346,109	702,203 268,271	1,722,762 3,853,862	7,365,918 4,521,778	82,214,496 32,485,011
	2,648		56,049	21,952	-69 1,313	262	274,051	113,056	15,953	206,806	-69 692,090	-247 2,481,815
	2,648		56,049	21,952	-69 1,313	871,850 -36,346	789,191 364,395	2,407,321			4,068,303 409,811	4,126,897 873,103
								872,581 459,165 90,898	702,203 284,224 30,742	1,722,762 4,060,668 75,423	3,297,546 4,804,057 233,423	78,087,352 34,093,723 3,509,007
						19,085	17,275	963,479 459,165	732,945 284,224	1,798,185 4,060,668	3,530,969 4,804,057	81,595,076 34,093,723
	56,918		125	43,343	-81 1,853	389	125,515	469,436	56,904	879,590	-81 1,634,073	1,287 4,248,872
	56,918		125	43,343	-81 1,853	19,085 389	17,275 125,515	963,479 928,601	732,945 341,128	1,447,005	3,179,708 1,497,872	3,178,886 1,821,114
						418	378	21,091	16,044	351,180 4,940,258 47,050	351,180 4,940,258 84,981	78,418,760 36,521,481 3,502,732
						418	378	21,091	16,044	398,230 4,940,258	436,161 4,940,258	81,921,492 36,521,481
	77,078		107	11,303	-88 1,039	313	3,837	9,178	3,149		-88 106,004	1,569 2,399,681
	77,078		107	11,303	-88 1,039	418 313	378 3,837	21,091 9,178	16,044 3,149	398,230 4,146,174	436,073 4,252,178	433,584 4,566,416
						9	8	462	351	794,084 8,717	794,084 9,547	81,489,477 34,354,746 3,577,066
						9	8	462	351	8,717 794,084	9,547 794,084	85,066,543 34,354,746
	50,675		223	36,210	-44 6,733	249	11,252	2,568	6,267		-44 114,177	24,445 3,942,569
					-44 6,733 -1	9 249	8 11,252	462 2,568 20	351 6,267 15	8,717 794,084 382	9,503 821,153 416	85,090,988 38,210,207 3,724,747
	50,675		223	36,210	-45 6,733 6,688	9 249 258	8 11,252 11,260	482 2,568 3,050	366 6,267 6,633	9,099 794,084 803,183	9,919 908,261 918,180	88,815,735 38,297,315 127,113,050
3,379 49,947 53,326	204,116 192,565 396,681	9 9,921 9,930	395,277 267,289 662,566	461,086 223,823 684,909	7,809,572 450,241 8,259,813	519,425 -32,595 483,830	478,971 504,999 983,970	1,954,297 940,347 2,894,644	424,966 350,544 755,510	1,022,313 4,940,258 5,962,571	13,273,411 7,894,339 21,167,750	89,835,392 61,854,958 151,690,350
3,513 49,947 53,460	219,215 141,890 361,105	9 9,921 9,930	424,100 267,066 691,166	595,796 187,613 783,409	10,824,690 442,508 11,268,198	891,363 -32,844 855,519	806,844 493,747 1,300,591	3,391,891 927,779 4,329,670	748,989 344,277 1,093,266	1,845,235 4,146,174 5,991,409	19,751,645 6,986,078 26,737,723	56,442,357 23,557,643 80,000,000
134	15,099		28,823	134,710	3,015,073	371,947	327,881	1,438,076	324,389	832,021	6,488,153	55,422,700

Summary of Allocation Percentages

Each year the Department determines water contractor charges for the State Water Project based on allocations of costs among purposes of facilities used for more than a single purpose. These determinations are based on the

percentages previously reported to and approved by the Legislature, as well as preliminary estimates for facilities not yet reported. These percentages are summarized in the following table:

SUMMARY OF COST ALLOCATION PERCENTAGES

(in percent of joint costs of the respective facilities)

Facilities of the State Water Project	Reimbursable Purposes	Nonreimbursable Purposes		Total
	Water Supply and Power Generation	Flood Control	Recreation and Fish and Wildlife Enhancement	
Capital Costs of Features Jointly Used				
<u>Project Conservation Facilities</u>				
Frenchman Dam and Lake (a)	21.5	0	78.5	100.0
Antelope Dam and Lake (a)	0	0	100.0	100.0
Grizzly Valley Dam and Lake Davis (a)	1.0	0	99.0	100.0
Oroville Division (a)(b)	97.1	0	2.9	100.0
California Aqueduct, Delta to Dos Amigos Pumping Plant (a)	96.6	0	3.4	100.0
Delta Facilities (c)	86.0	0	14.0	100.0
<u>Project Transportation Facilities</u>				
Grizzly Valley Pipeline	100.0	0	0	100.0
North Bay Aqueduct (c)	100.0	0	0	100.0
South Bay Aqueduct:				
Del Valle Dam and Lake Del Valle (a)	25.2	26.8	48.0	100.0
Remainder of South Bay Aqueduct	100.0	0	0	100.0
California Aqueduct:				
California Aqueduct, Delta to Dos Amigos Pumping Plant (a)	96.6	0	3.4	100.0
California Aqueduct, Dos Amigos Pumping Plant to Termini excluding the Coastal Branch (a)	94.3	0	5.7	100.0
Coastal Branch	100.0	0	0	100.0
<hr/>				
a) Final percentages, subject to periodic review as discussed on Page 11.				
b) Percentages are applicable to Capital Costs of Features Jointly Used, minus Federal Flood Control Payments.				
c) Illustrative percentages only, assumed for current project financial and repayment analyses.				
NOTE: Percentages shown are those applicable to the costs of the facilities as accounted by the State, or, in the case of federal-state joint-use facilities (San Luis Facilities), only the State's share of the total cost.				

COMMENTS
BY
THE DEPARTMENT OF BOATING AND WATERWAYS,
THE DEPARTMENT OF PARKS AND RECREATION,
AND THE DEPARTMENT OF FISH AND GAME

Memorandum

To : Mr. David N. Kennedy, Director
Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Date : NOV 29 1983

Subject: Cost Allocations to
Recreation and Fish and Wildlife
Enhancement, State Water Project

From : Department of Boating and Waterways

In accordance with Section 11912 of the California Water Code, the Department of Boating and Waterways has reviewed the subject cost allocations and has no comments.


WILLIAM H. EVERS
Director

Memorandum

Date : NOV 23 1983

A-36

To : David N. Kennedy, Director
Department of Water Resources
1416 Ninth Street, 11th Floor
Sacramento, CA 95814

From : Department of Parks and Recreation

Subject: Cost Allocations to Recreation
and Fish and Wildlife Enhancement
State Water Project

The California Department of Parks and Recreation has reviewed the subject report. This Department has no comments on the report.

for Lee S. Briner
for Wm. S. Briner
Director

Memorandum

To : David N. Kennedy, Director
Department of Water Resources

Date : November 29, 1983

From : Department of Fish and Game

Subject: Annual Report to the Legislature, State Water Project Costs of Recreation and Fish and Wildlife Enhancement

In accordance with California Water Code, Section 11912, you requested our written comments on State Water Project joint costs allocated to recreation, fish and wildlife enhancement, as reported in the review draft of Appendix D to Bulletin No. 132-83.

We have reviewed the 1983 State Water Project draft report, Appendix D, and find it consistent with previous reports. The Department, therefore, supports the cost allocation and recommends \$18,267,895 be attributed to recreation, fish and wildlife enhancement.

We note in the section of the report entitled "f(Reasons for cost increases are outlined below" on page 13 that recreation and fish and wildlife enhancement are allocated \$58,000 for sediment removal equipment. Our reaction to this is that while we have no objection to allocating costs of upkeep and maintenance of the project to fish and wildlife, we believe that a comparable amount spent on revegetating removed sediment would offer greater fish and wildlife enhancement.

Since we no longer employ an economist on our staff, the report was not subject to an economic analysis.

Thank you for the opportunity to review this report.

H. D. Carper
Director

CONVERSION FACTORS

Quantity	To Convert from Metric Unit	To Customary Unit	Multiply Metric Unit By	To Convert to Metric Unit Multiply Customary Unit By
Length	millimetres (mm)	inches (in)	0.03937	25.4
	centimetres (cm) for snow depth	inches (in)	0.3937	2.54
	metres (m)	feet (ft)	3.2808	0.3048
	kilometres (km)	miles (mi)	0.62139	1.6093
Area	square millimetres (mm ²)	square inches (in ²)	0.00155	645.16
	square metres (m ²)	square feet (ft ²)	10.764	0.092903
	hectares (ha)	acres (ac)	2.4710	0.40469
	square kilometres (km ²)	square miles (mi ²)	0.3861	2.590
Volume	litres (L)	gallons (gal)	0.26417	3.7854
	megalitres	million gallons (10 ⁶ gal)	0.26417	3.7854
	cubic metres (m ³)	cubic feet (ft ³)	35.315	0.028317
	cubic metres (m ³)	cubic yards (yd ³)	1.308	0.76455
	cubic dekametres (dam ³)	acre-feet (ac-ft)	0.8107	1.2335
Flow	cubic metres per second (m ³ /s)	cubic feet per second (ft ³ /s)	35.315	0.028317
	litres per minute (L/min)	gallons per minute (gal/min)	0.26417	3.7854
	litres per day (L/day)	gallons per day (gal/day)	0.26417	3.7854
	megalitres per day (ML/day)	million gallons per day (mgd)	0.26417	3.7854
	cubic dekametres per day (dam ³ /day)	acre-feet per day (ac-ft/day)	0.8107	1.2335
Mass	kilograms (kg)	pounds (lb)	2.2046	0.45359
	megagrams (Mg)	tons (short, 2,000 lb)	1.1023	0.90718
Velocity	metres per second (m/s)	feet per second (ft/s)	3.2808	0.3048
Power	kilowatts (kW)	horsepower (hp)	1.3405	0.746
Pressure	kilopascals (kPa)	pounds per square inch (psi)	0.14505	6.8948
	kilopascals (kPa)	feet head of water	0.33456	2.989
Specific Capacity	litres per minute per metre drawdown	gallons per minute per foot drawdown	0.08052	12.419
Concentration	milligrams per litre (mg/L)	parts per million (ppm)	1.0	1.0
Electrical Conductivity	microsiemens per centimetre (uS/cm)	micromhos per centimetre	1.0	1.0
Temperature	degrees Celsius (°C)	degrees Fahrenheit (°F)	$(1.8 \times ^\circ\text{C}) + 32$ $(^\circ\text{F} - 32)/1.8$	

State of California—Resources Agency
Department of Water Resources
P.O. Box 388
Sacramento
95802

